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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/719,971  | 11/21/2003  | Anis Zribi           | 132669-1            | 3568             |
| 6147  | 7590        | 11/08/2005           |                     | EXAMINER         |
| GENERAL ELECTRIC COMPANY<br>GLOBAL RESEARCH<br>PATENT DOCKET RM. BLDG. K1-4A59<br>NISKAYUNA, NY 12309 |             |                      | CYGAN, MICHAEL T    |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2855                |                  |

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                           |                  |
|------------------------------|---------------------------|------------------|
| <b>Office Action Summary</b> | Application No.           | Applicant(s)     |
|                              | 10/719,971                | ZRIBI ET AL.     |
|                              | Examiner<br>Michael Cygan | Art Unit<br>2855 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12 September 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-80 is/are pending in the application.
- 4a) Of the above claim(s) 27-80 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-26 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 21 November 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/21/03, 9/12/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Election/Restrictions***

1. Claims 27-80 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 12, 2005.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-8, 10-14, 17-22, 24, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Mansky (US 2002/0017126 A1). Mansky discloses the claimed invention, a miniaturized sensor device, comprising thin film membrane (either silicon nitride or Kapton (polyimide)) [94], resistive thin film heater/thermometer [100] (made from titanium), Si frame [92] having open cell [96], thin film layer [95] adjacent to the frame, and a thin film sensing layer [90] adjacent the thin film membrane, where the thin

film membrane and sensing layer may be 2 microns [paragraph 188], the thin film heater/thermometer may be 20 microns [paragraph 192], and where multiple adjacent cells may be formed in the form of an array/porous grid structure [paragraphs 194-195]. The sensing layer is disposed directly or indirectly adjacent to either the first or second surface on the thin film membrane (Figure 9A). See entire document, especially paragraphs 187-196.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mansky (US 2002/0017126 A1). Mansky teaches the claimed invention as detailed above except for the thickness range of the frame. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a value in the claimed thickness range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.
  
4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mansky (US 2002/0017126 A1) in view of Routkevitch (US 6,705,152 B2). Mansky teaches the claimed invention as detailed above except for dry air. Routkevitch teaches the use of nanotubes as sensor elements in a sensor array system (column 4 lines 1-14). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use nanotubes as taught by Routkevitch in the invention taught by Mansky to comprise the sensor elements, since Routkevitch teaches that "nanostructured materials present new opportunities for the development and commercialization of the next generation of gas sensors," column 2 lines 41-51.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mansky (US 2002/0017126 A1) in view of Zanini-Fisher (EP 703,449 A1).  
Mansky teaches the claimed invention as detailed above except for dry air. Zanini-Fisher teaches the use of aluminosilicates as sensor elements in a sensor array system (column 4 lines 37-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use aluminosilicates as taught by Zanini-Fisher in the invention taught by Mansky to comprise the sensor elements, since Zanini-Fisher teaches that this increases the number of sensor-active sites (i.e., the effective sensing area or the sensor film) without increasing the size of the device, an important feature for maintaining signal strength while shrinking device size.
  
6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mansky (US 2002/0017126 A1) in view of DiMeo (US 2002/0017126 A1).  
Mansky teaches the claimed invention as detailed above except for dry air. DiMeo teaches the use of dry air for calibrating and flushing a sensor array system (paragraphs 160 and 165). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use dry air as taught by DiMeo in the invention taught by Mansky to interact with the sensor, since DiMeo teaches the usefulness of such an environment for flushing and calibrating.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cygan whose telephone number is (571) 272-2175. The examiner can normally be reached on 8:30-6 M-Th, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



MICHAEL CYGAN, PH.D.  
PRIMARY EXAMINER